

Portland Harbor

Swan Island Business Association

June 2012



Portland Harbor Superfund Milestones



We are here

2000 – – – – **2010**

2012

2013

2014

2000-11

- Superfund Listing, Research, Sampling, Analysis, Early Actions, Uplands Cleanup

Remedial Investigation (RI) and Risk Assessment

What and where are the risks?

Draft Feasibility Study (FS)

What are the clean-up options?

EPA's Proposed Clean-up Plan

EPA's Record of Decision (ROD)

EPA's Final Decision

- **Public presentations on Draft RI/FS**

- EPA comments & revisions to RI/FS

- **Formal Public Comment**

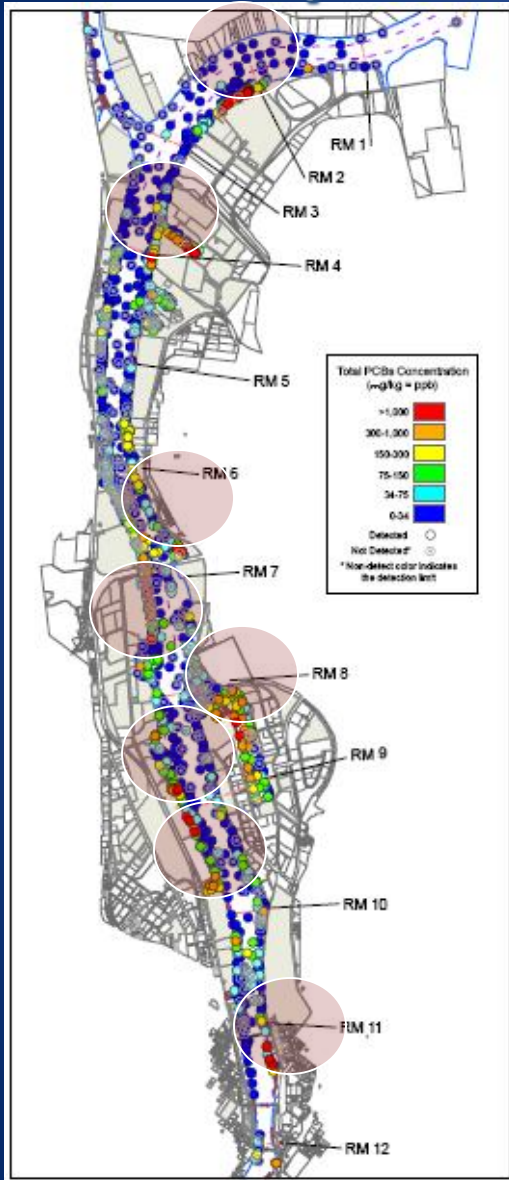
- State Concurrence

Harbor Cleanup

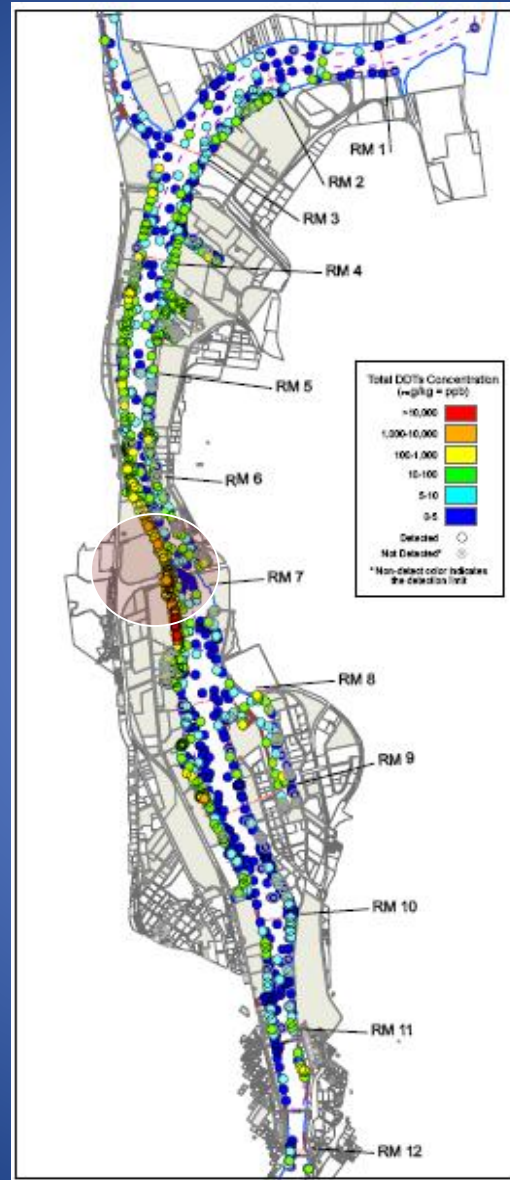
Remedial Investigation

- Site is well characterized – nature and extent of contamination, physical system
- Data demonstrates relationship between sediment, surface water, tissue and upland sources
- Contamination generally higher near shore compared to navigation channel
- Contamination *generally* higher at depth

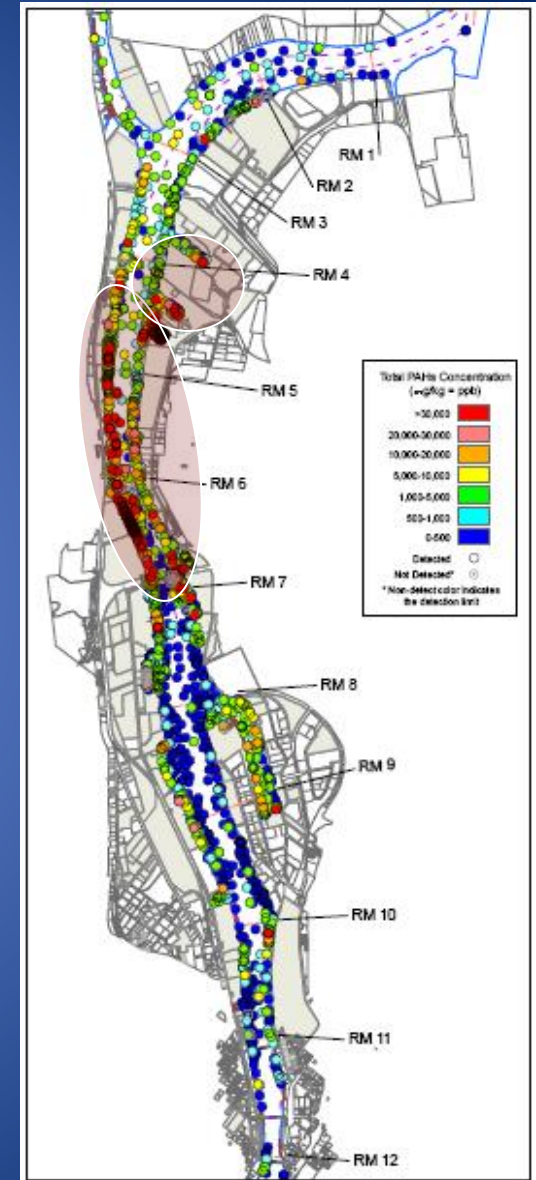
Examples of Contaminant Distribution



Total PCBs

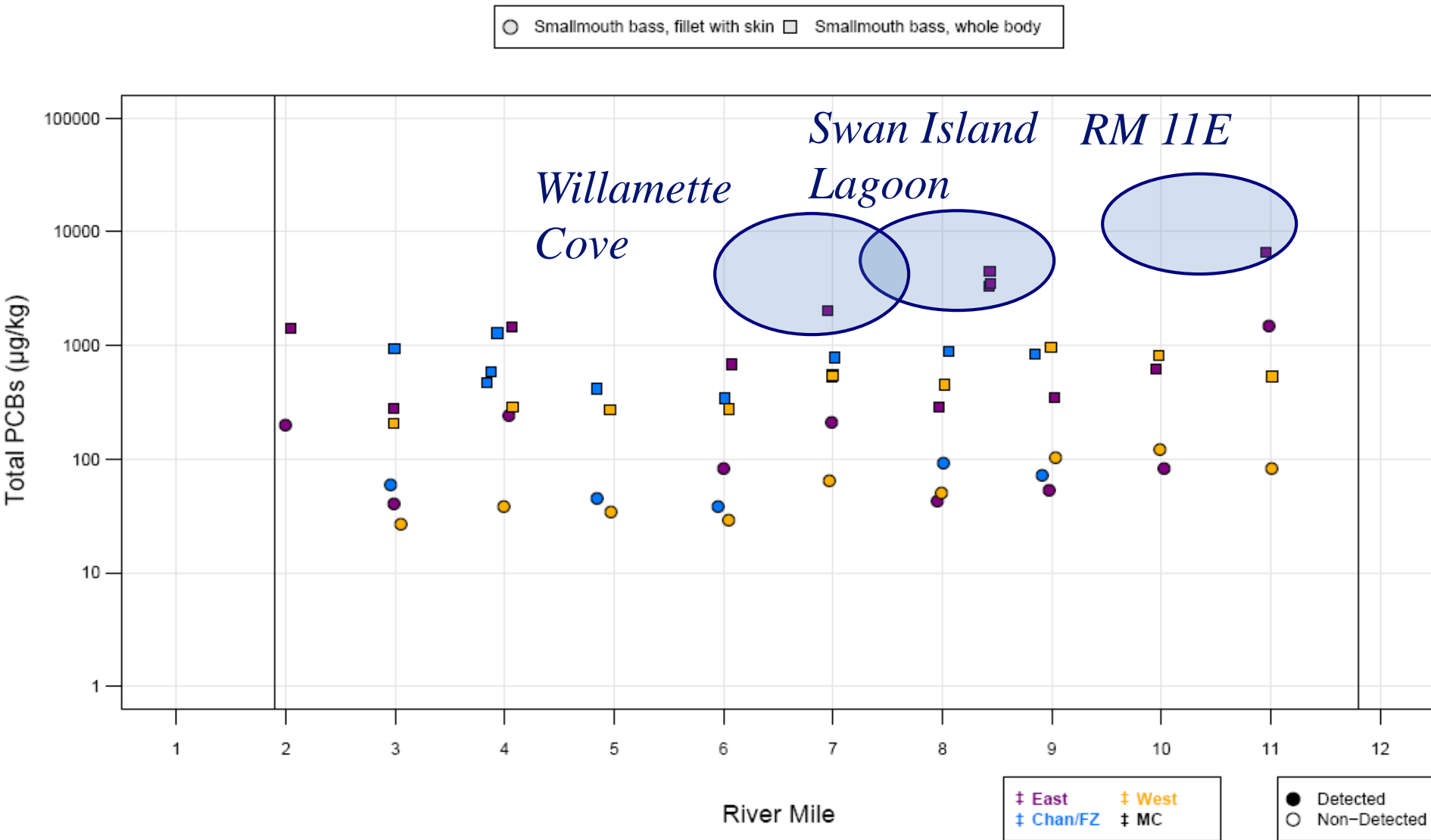


Total DDx



Total PAHs

Total PCBs in Smallmouth Bass



Human Health

Exposure Scenarios for Evaluation

	Ingestion and Dermal Adsorption	In-water Sediment Ingestion and Dermal Adsorption	Surface Water Ingestion and Dermal Adsorption	Groundwater Seeps Ingestion and Dermal Adsorption	Fish/ Shellfish Ingestion	Infant Consumption of Human Milk
Workers	●	●				●
Transients	●		●	●		
Beach Users	●		●			
Fishers	●	●			●	●
Divers		●	●			●
Domestic Users			●			

Human Health Risk Assessment

- 19 risk driver contaminants; many are co-located
- PCBs and Dioxin most widespread, PAHs and DDX high localized risk
- Fish consumption – highest risk
- Children and infants

Ecological Risk Assessment

- Many Lines of Evidence on ecological risks, including:
 - Dietary ingestion of contaminants by birds, mammals and fish
 - Direct measurement of sediment toxicity
 - Bioaccumulation of contaminants into tissues of bird eggs, fish, and benthic invertebrates
- Risks to 20 species (e.g. mink) or groups (e.g. aquatic plants) selected as representative and evaluated

What Chemicals Pose the Greatest Ecological Risks at Portland Harbor?

- PCBs pose risks to the largest number of ecological receptors
- PAHs pose risks across large proportion of the site
- DDX among chemicals most associated with toxicity in benthic invertebrates

Risk Management

- Considers uncertainties in risk assessments and models
- EPA will be reviewing how LWG risk management assumptions have been used in the draft FS
- Risks will be reduced through variety of options – dredging, capping, treatment, natural recovery, and enhanced natural recovery

Community Involvement

- FS information sessions
- Portland Harbor Community Advisory Group monthly meetings
- Regular e-mail updates to over 1000 people with information about the investigation and cleanup
- Project team presentations to a wide variety of stakeholders and audiences.

Selection of the Remedy

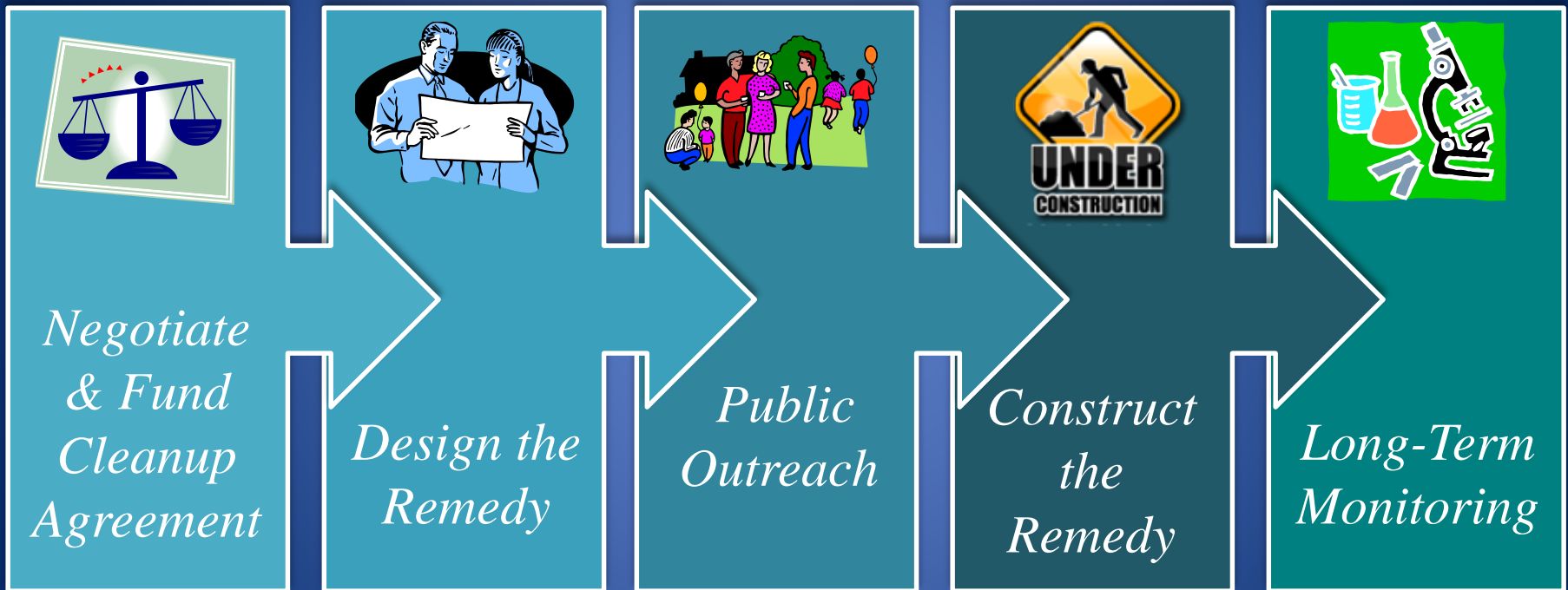
- Assessment of alternative approaches for cleanup based on nine criteria
- Risk management decision on most appropriate solution
- Proposed Plan - based on RI/FS and Administrative Record for review/comment
- Review public comment, consult with State, select remedy

FS to ROD

- EPA review of Draft Feasibility Study – 2012
 - Public outreach
 - Adequate basis for remedy selection
 - Comment/Revisions/Final FS
- Proposed Plan development
 - National Remedy Review Board/CSTAG review
 - Tribal consultation
- Proposed Plan – public comment - 2013
- Record Of Decision (2014?)

After the Record of Decision

2013 and beyond



Continuing Upland Source Control and Monitoring